10/029,599

Docket No. 2991

SPECIFICATION

TITLE: A SYSTEM AND METHOD FOR INCREASING CHANNEL CAPACITY OF FIBER-OPTIC COMMUNICATION NETWORKS

This Application is a con of PCT/US01/21062 filed June 29, 2001 and ~~Priority~~ United States Provisional Application Serial No. 60/217,136 filed July 10, 2000 are hereby claimed.

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to optical communication networks and more particularly relates to a system and method for increasing the channel capacity and total system throughput of a fiber-optic communication network utilizing three-dimensional spatial field.

2. Background Information

As data communication systems and networks consume more and more bandwidth, fiber-optics has emerged as a leading technology for metropolitan and long-haul data transmissions. Access techniques, adapted from electronics communication, such as Code Division Multiplexing (CDM), Frequency Division Multiplexing (FDM), and Time Division Multiplexing (TDM) have been used in fiber-optic systems and networks. For example, Wavelength Division Multiplexing (WDM) is essentially FDM in the optical domain. To further conserve the bandwidth of an optical